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ABSTRACT

This study provides recommendations for the measurement of organizational climate based on relationships between organizational climate and job performance and satisfaction. A search of climate studies was conducted in the business and psychology literatures, and meta-analyses of correlations with performance and satisfaction were performed (16 studies). Results indicate that the following climate dimensions serve as predictors of job performance and satisfaction: (1) supervisory style, (2) decision-making, (3) coworker relations, (4) risk, and (5) reward. Additional predictors of satisfaction are employee competence, pressure, task characteristics, and responsibility. Recommendations are made for the development of climate surveys. Five tables illustrate the discussion. (Contains 26 references.) (Author/SLD)

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Recommendations for the Measurement of Organizational Climate

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Abstract

This study provides recommendations for the measurement of organizational climate based on relationships between organizational climate and job performance and satisfaction. A search for climate studies was conducted in the business and psychology literatures, and meta-analyses of correlations with performance and satisfaction were performed. Results indicated that the following climate dimensions serve as predictors of job performance and satisfaction: Supervisory Style, Decision Making, Coworker Relations, Risk, and Reward. Additional predictors of satisfaction are: Employee Competence, Pressure, Task Characteristics, and Responsibility. Recommendations for the development of climate surveys were made.

Recommendations for the Measurement of Organizational Climate

What is climate?

Psychological climate has been defined as referring to an "individual's cognitive representations of relatively proximal situational events, expressed in terms that reflect the psychological meaning and significance of the situation to the individual" (James & Sells, 1982). Key features of this definition are that climate is individual and interpretive.

Organizational climate has been defined as "summed, averaged meanings that people attach to a particular feature of the setting" (Schneider & Reichers, 1983). James, Joyce, and Slocum (1988) have argued that, if individuals in an organization do in fact share perceptions of a dimension of psychological climate, "shared assignment of meaning is implied" and scores may be aggregated to indicate organizational climate - "how individuals in general perceive their organization."

Why measure climate?

An important link between perceptions and behavior has been identified and discussed by climate researchers. Schneider and Reichers (1983) point out that there are climates for some behavioral objective (e.g., safety, productivity, etc.). In this line of thinking, then, psychologically meaningful perceptions serve as a frame of reference for attaining congruity between behavior and the practices of the system.

Investigations of organizational climate have often looked for potential relationships between climate and work performance and satisfaction. In an early narrative review of organizational

climate research, Hellriegel and Slocum (1974) note that climate has been considered an independent, intervening, and a dependent variable. In their review, Hellriegel and Slocum (1974) conclude that, as an independent variable, climate has been shown to be related to job satisfaction in many individual studies.

Relationships between climate and performance have not always been consistent across studies, but there is sufficient evidence suggesting that what has come to be known as "collective climate" (Joyce & Slocum, 1984), or aggregation of climate perceptions in homogeneous subunits (Jones & James, 1979), may provide a frame of reference for workers and influence work outcomes. The absence of objective performance measures, or extra-organizational indices of effectiveness, serving as criteria is markedly apparent in the literature. However, individual studies do offer subjective performance data.

Purpose of this study

The purpose of this study was to provide recommendations for the measurement of organizational climate based on further exploration of the relationships between organizational climate and satisfaction and performance. Some of the potential difficulties encountered in past research which have impacted the size of the resulting correlations for individual studies include: limited sample sizes, and unreliability of predictor and criterion variables. It was hypothesized that significant relationships between climate domains and satisfaction and performance would be found when correlations are corrected for sampling error and measurement error, and aggregated across studies. Meta-analysis provides the psychometric method for

determining a true correlation coefficient. The results of the meta-analyses were used to identify climate domains with criterion-related validity for predicting satisfaction and performance, and to provide recommendations for the development of climate surveys.

Method

An extensive search was undertaken to locate research studies reporting relationships between organizational climate and satisfaction and performance. Psychological Abstracts, Business Abstracts, and various professional and technical journals and books in the field were scanned to locate relevant articles. Studies were screened to determine the independence and relevance of their results; one study was dropped from this analysis that reported data also included in another investigation (i.e., Newman, 1975). Many other studies were not appropriate for meta-analysis; for example, it was necessary to eliminate literature reviews, articles without correlational data, and some studies for which the dependent variables were not appropriate for this meta-analysis. Among the studies included, several reported correlations for more than one sample.

Those studies which met the screening requirements were classified in two ways: (1) by dependent variable (satisfaction and performance); and (2) by climate dimension. The classification relied on content-analysis of the description of the scales, and/or individual items. The resulting classification of the climate dimensions appears in Table 1. Two meta-analysts performed the classification with a third meta-analyst available to adjudicate differences.

Table 1
Climate Dimensions

Decision Making	Influence over decisions
Risk	Willingness to experiment with change
Reward	Rewards are based on performance
Pressure	High standards of performance are set
Coworker Relations	A friendly, trusting atmosphere prevails
Supervisory Style	Valuation, consideration, and support of the employee
Employee Competence	Employees receive the proper training and "know-how" to do the job
Responsibility	Employees take responsibility for the job
Task Characteristics	Jobs are characterized by variety, challenge, and worthwhile accomplishment
Work Environment	Employees have adequate work conditions
Structure	Jobs are clearly defined and structured

In a meta-analysis of correlations, the correlation for each study can be corrected for statistical sources of variance. In this study, correlations were corrected for measurement error due to unreliability of predictor and criterion variables, and sampling error; they were then cumulated for an estimate of the true correlation over studies.

The computer programs used to perform the meta-analyses were: (1) DSTAT (Johnson, 1989), which is in the Hedges and Olkin (1985) tradition; and (2) VGBOOT 2.0 (Switzer, 1992) which is in the Schmidt and Hunter (1980) tradition. The DSTAT program was used to conduct the analyses for which there was complete data for all studies included. The VGBOOT program was used in analyses where complete data on criterion reliability was unavailable for the included studies. VGBOOT enables correcting the data by using artifact distributions.

Separate analyses were performed for each dependent variable, by climate dimension. Each subset of studies was tested for homogeneity by the Q statistic (Hedges & Olkin, 1985). When the subset failed the homogeneity test, the largest outlier was removed until the analysis of the subset reached non-significance ($p > .05$). The results of the meta-analysis, then, are presented only for the studies which can adequately be described by a single effect size. When the homogeneity criterion was failed, the outliers were inspected for possible additional model specification. Based on the information available in the original studies, no further categorical modeling was suggested.

Results

The studies which were included in the meta-analysis appear in Table 2. The studies were based on surveys conducted in a wide range of organizations. The occupations of the survey respondents were numerous and varied, and included the following: accountants, clerical personnel, maintenance and hospital workers, managers, civilian employees of the military, non-managerial hotel employees, non-supervisory utility employees, insurance and sales personnel, scientists, and teachers and staff. The only study eliminated from all results due to lack of statistical fit was Bluen and Donald (1991).

Table 2
Studies Included in the Meta-analyses for each Dependent Variable

Study	Performance	Satisfaction
Barling, Wade & Fullagar (1990)		x
Bluen & Donald (1991)		x
Churchill, Ford, & Walker (1976)		x
Day & Bedeian (1991a)	x	
Day & Bedeian (1991b)		x
Dunham (1977)		x
Eisenberger, Fasolo, Davis-La Mastro (1990)	x	
House & Rizzo (1972)		x
Jackofsky & Slocum (1988)	x	x
Lawler, Hall, & Oldham (1974)		x
Newman (1977)		x
Pritchard & Karasick (1973)	x	x
Schnake (1983)		x
Schneider & Snyder (1975)		x
Steel, Mento, Dilla, Ovalle, Lloyd (1985)		x
Steel, Shane, & Kennedy (1990)	x	x

The results of the analyses for Performance, are presented in Table 3 for those dimensions for which the homogeneity criterion was met. As can be seen from the confidence intervals presented in Table 3, significant effects (d) were obtained for

Table 3

Number of Subjects, Number of Studies, True Correlation, Effect Size, and 95% Confidence Intervals for the Climate and Performance Relationship

	N	n	r	d	95% CI
Decision Making	132	2	0.33	0.70	0.45/0.95
Risk	559	2	0.14	0.28	0.16/0.39
Reward	622	3	0.21	0.43	0.31/0.54
Pressure	546	2	0.06	0.11	0.00/0.23
Coworker Relations	139	2	0.16	0.32	0.20/0.44
Supervisory Style	200	3	0.35	0.75	0.55/0.96

five climate dimensions studied: Decision Making, Risk, Reward, Coworker Relations, and Supervisory Style. The significant true r 's ranged from 0.14 to 0.35. Pressure failed to reach significance at the .05 level.

The results of the analyses of the second dependent variable, Satisfaction, are presented in Tables 4 and 5. Table 4 shows the results of the DSTAT analyses of correlational studies of climate and satisfaction which met the following criteria: (1) complete data were available for individual studies enabling correction on a case-by-case basis for sampling error and unreliability; and (2) the subset of studies reported may be described by a single effect given their convergence to an acceptable ($p > .05$) Q test statistic. As can be seen from the confidence intervals presented in Table 4, significant effects were obtained for eight climate dimensions: Supervisory Style, Employee Competence, Reward, Pressure, Task Characteristics, Decision-Making, Coworker Relations, and Responsibility. The correlations ranged from 0.21 to 0.72.

Table 4

Number of Subjects, Number of Studies, True Correlation, Effect Size, and 95% Confidence Interval for the Climate and Satisfaction Relationship

Climate	Satisfaction	N	n	r	d	95% CI
Supervisory Style	I & Promotion	721	2	0.21	0.43	0.33/0.54
	E & Supervisor	585	2	0.67	1.79	1.65/1.93
	E & Coworker	1232	2	0.39	0.85	0.77/0.93
Employee Competence	I & Promotion	773	2	0.44	0.99	0.88/1.10
	E & Supervisor	1494	2	0.45	1.02	0.94/1.09
Responsibility	I & Work	9,460	2	0.25	0.52	0.49/0.55
	E & Coworker	2,336	3	0.30	0.63	0.57/0.69
Reward	I & Promotion	9,648	2	0.72	2.05	2.01/2.08
	E & Pay	9,648	2	0.50	1.16	1.12/1.19
	E & Supervisor	9,648	2	0.50	1.16	1.13/1.19
Pressure	E & Pay	10,042	2	0.29	0.60	0.57/0.63
	E & Supervisor	10,564	3	0.29	0.60	0.57/0.63
	E & Coworker	10,564	3	0.29	0.61	0.58/0.63
Task Characteristics	I & Promotion	773	2	0.67	1.81	1.69/1.93
Decision Making	I & Promotion	773	2	0.57	1.41	1.29/1.52
	E & Pay	163	2	0.55	1.32	1.08/1.56
	E & Supervisor	773	2	0.57	1.40	1.29/1.51
	E & Coworker	810	2	0.43	0.95	0.85/1.05
Coworker Relations	I & Promotion	585	2	0.26	0.56	0.43/0.66
	E & Pay	773	2	0.33	0.70	0.59/0.80
	E & Supervisor	1,295	3	0.33	0.71	0.63/0.79
	E & Coworker	9,523	3	0.40	0.87	0.84/0.90
	Total	346	3	0.62	1.60	1.43/1.77

I = Intrinsic and E = Extrinsic

Table 5 shows the results of the analyses of climate and satisfaction which may be described as follows: (1) complete data were not available for individual studies on criterion reliability; and (2) the corrections made were based on artifact distributions through implementation of the VGBOOT program. The VGBOOT program does not compute the Q statistic for corrected

correlation coefficients. However, the results reported in Table 5 may tentatively be considered to represent a single effect, given their convergence to an acceptable ($p > .05$) Q test statistic using correlations corrected for unreliability of the predictor variable only. The results in Table 5 may be seen as lending further support to the relationships shown between the climate dimensions and satisfaction in Table 4. As can be seen from the confidence intervals presented, significant effects were obtained for seven of the eight climate dimensions for which results were presented in Table 4: Supervisory Style, Employee Competence, Responsibility, Reward, Task Characteristics, Decision Making, and Coworker Relations. In addition, Risk reached significance. The correlations ranged from 0.34 to 0.67.

Table 5

Number of Subjects, Number of Studies, True Correlation, and 95% Confidence Interval for the Climate and Satisfaction Relationship

Climate	Satisfaction	N	n	r	95% CI
Supervisory Style	I & Work	773	2	0.52	0.49/0.60
Employee Competence	I & Work	1557	3	0.35	0.34/0.37
	E & Pay	354	2	0.54	0.49/0.64
	E & Coworker	1064	3	0.57	0.55/0.59
Responsibility	I & Promotion	1,200	3	0.44	0.36/0.47
	E & Pay	2,105	3	0.34	0.29/0.36
Reward	I & Work	773	2	0.40	0.38/0.40
Task Characteristics	I & Work	773	2	0.67	0.64/0.68
Decision Making	I & Work	873	3	0.45	0.34/0.51
	Total	1390	6	0.48	0.44/0.55
Coworker Relations	I & Work	1,814	2	0.46	0.45/0.46
Risk	E & Pay	1,395	2	0.47	0.44/0.53
	E & Supervisor	1,395	2	0.47	0.44/0.52
	E & Coworker	1,395	2	0.40	0.33/0.42

I = Intrinsic and E = Extrinsic

Discussion

These results have important implications for those who design organizational climate measures, and for those who use climate measures in continuous improvement. The measurement of employee perceptions of Decision Making, Risk, Reward, Coworker Relations, and Supervisory Style offers promise in predicting supervisory ratings of performance on the job. Past research in which climate surveys have been utilized has largely relied on construct validity evidence for the individual scales to support their use. However, this study provides criterion-related

validity evidence in the form of true correlations, which support a link to performance. For those organizations for which continuous improvement is a central goal, these five climate dimensions appear to represent an operationally useful set of constructs for assessments. Perceptions of the practices of the organization with respect to supervision, decision making, distribution of rewards, social interactions among coworkers, and willingness to take risks and innovate are significantly related to employee performance.

With respect to another important work outcome, satisfaction towards facets of the job, employee perceptions of the above described climate dimensions are also useful predictors. In addition, the climate dimensions of Employee Competence, Pressure, Task Characteristics, and Responsibility, are predictive. For Responsibility, Decision Making, Reward, Coworker Relations, Supervisory Style, and Employee Competence, significant relationships were found with both intrinsic and extrinsic facets of job satisfaction. For Task Characteristics, significant relationships were found with intrinsic facets only. For Risk and Pressure, significant relationships were found with extrinsic facets only.

For each of the following dimensions, there were some aspects of satisfaction (either intrinsic or extrinsic) which could not adequately be described by a single effect size, since the available studies failed the homogeneity criterion: Risk, Supervisory Style, Responsibility, Reward, Pressure, and Task Characteristics. Given future availability of additional correlational studies, the relationships with job satisfaction

which appear to be meaningful to explore are: (1) task characteristics and extrinsic aspects; (2) pressure and intrinsic aspects; (3) risk and intrinsic aspects; (4) supervisory style and extrinsic & pay; (5) reward and extrinsic & coworker; and (6) responsibility and extrinsic & supervisor. In addition, relationships between Work Environment and Structure as independent variables, and satisfaction as a dependent variable, should be explored in meta-analysis, as more studies become available.

Conclusions

For survey developers and for those interested in continuous improvement, this meta-analysis delineates several important dimensions of organizational climate which relate to important job outcomes. Job performance is a crucial outcome for virtually all organizations. Climate dimensions which can serve as predictors are: Supervisory Style, Decision Making, Reward, Coworker Relations, and Risk. Job Satisfaction is also an important employee goal, and is often investigated by organizations. Employee perceptions are also meaningful predictors of job satisfaction as demonstrated by the significant results for the following dimensions used in this study: Supervisory Style, Employee Competence, Reward, Pressure, Task Characteristics, Decision Making, Coworker Relations, Risk, and Responsibility. The results suggest that climate can serve as a strong predictor of both performance and satisfaction. Evaluation of the comprehensiveness, and utility of climate assessments in facilitating continuous improvement should be conducted with these important relationships in mind.

References

- Barling, J., Wade, B., & Fullagar, C. (1990). Predicting employee commitment to company and union: Divergent models. Journal of Occupational Psychology, 63, 49-61.
- Bluen, S. D., & Donald, C. (1991). The nature and measurement of in-company industrial relations climate. South African Journal of Psychology, 21(1), 12-20.
- Churchill, G. A., Ford, R. M., & Walker, O. C. (1976). Organizational climate and job satisfaction in the salesforce. Journal of Marketing Research, 8, 323-332.
- Day, D. V., & Bedeian, A. G. (1991a). Predicting job performance across organizations: The interaction of work orientation and psychological climate. Journal of Management, 17(3), 589-600.
- Day, D. V., & Bedeian, A. G. (1991b). Work climate and type A status as predictors of job satisfaction: A test of the interactional perspective. Journal of Vocational Behavior, 38, 39-52.
- Dunham, R. B. (1977). Reactions to job characteristics: Moderating effects of the organization. Academy of Management Journal, 20(1), 42-65.

- Eisenberger, R., Fasolo, P., and Davis-LaMastro, V. (1990). Perceived organizational support and employee diligence, commitment, and innovation. Journal of Applied Psychology, 75(1), 51-54.
- Hedges, L. V., & J. Olkin, I. (1985). Statistical methods for meta-analysis. New York: Academic Press.
- Hellriegel, D., & Slocum, J. W. (1974). Organizational climate: Measures, research and contingencies. Academy of Management Journal, 17 (2), 255-280.
- House, R. J., & Rizzo, J. R. (1972). Toward the measurement of organizational practices: Scale development and validation. Journal of Applied Psychology, 56 (5), 388-396.
- Jackofsky, E. F., & Slocum, J. W. (1988). A longitudinal study of climates. Journal of Organizational Behavior, 9, 319-334.
- James, L. R., & Sells, S. B. (1982). Psychological climate: Theoretical perspectives and empirical research. In D. Magnusson (ed.), Toward a psychology of situations: An interactional perspective (pp.275-295). Hillsdale, NJ: Lawrence Erlbaum.
- James, L. R., Joyce, W. F., & Slocum, J. W. (1988). Comment: Organizations do not cognize. Academy of Management

Review, 13 (1), 129-137.

Johnson, B. T. (1989). DSTAT: Software for the meta-analytic review of research literatures [computer program]. Hillsdale, NJ: Lawrence Erlbaum Associates.

Jones, A. P., & James, L. R. (1979). Psychological climate: Dimensions and relationships of individual and aggregated work environment perceptions. Organizational Behavior and Human Performance, 23, 201-250.

Joyce, W. F., & Slocum, J. W. (1984). Collective climate: Agreement as a basis for defining aggregate climates in organizations. Academy of Management Journal, 27 (4), 721-742.

Lawler, E. E., Hall, D. T. & Oldham, G. R. (1974). Organizational climate: Relationship to organizational structure, process, and performance. Organizational Behavior and Human Performance, 11, 139-155.

Newman, J. E. (1975). Understanding the organizational structure-job attitude relationship through perceptions of the work environment. Organizational Behavior and Performance, 14, 371-397.

Newman, J. E. (1977). Development of a measure of perceived work environment (PWE). Academy of Management Journal, 20

(4), 520-534.

Pritchard, R. D., & Karasick, B. W. (1973). The effects of organizational climate on managerial job performance and job satisfaction. Organizational Behavior and Human Performance, 2, 126-146.

Schnake, M. E. (1983). An empirical assessment of the effects of affective response in the measurement of organizational climate. Personnel Psychology, 36(4), 791-807.

Schneider, B., & Reichers, A. E. (1983). On the etiology of climates. Personnel Psychology, 36, 19-39.

Schneider, B., & Snyder, R. A. (1975). Some relationships between job satisfaction and organizational climate. Journal of Applied Psychology, 60 (3), 318-328.

Steel, R. P., Mento, A. J., Dilla, B. L., Ovalle, N. K., & Lloyd, R. F. (1985). Factors influencing the success and failure of two quality circle programs. Journal of Management, 11(1), 99-119.

Steel, R. P., Shane, G. S., & Kennedy, K. A. (1990). Effects of social-system factors on absenteeism, turnover, and job performance. Journal of Business and Psychology, 4(4), 423-430.